Amendments to the Claims:

The listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

Claim 1 (currently amended): A membrane module ~~including~~ comprising a plurality of porous membranes extending in an array and mounted, at least at one end, in a header, said header ~~having~~ comprising a number of distribution apertures for distributing a fluid into said module and along a surface or surfaces of said membranes, a chamber ~~having~~ comprising one open end and another end in fluid communication with said distribution apertures for distributing said fluid to said distribution apertures.

Claim 2 (original): A membrane module according to claim 1 wherein the chamber is elongate.

Claim 3 (currently amended): A membrane module according to ~~claims 1 or claim 2~~ claim 1 wherein the length of said chamber is greater than that required to provide a static head, when the membrane is immersed in a liquid and gas introduced into the chamber, equivalent to the head loss for the gas to flow to said distribution apertures.

Claim 4 (currently amended): A membrane module according to ~~any one of the preceding claims~~ claim 1 wherein the fluid is gas.

Claim 5 (currently amended): A membrane module according to ~~any one of claims 1 to 3~~ claim 1 wherein the fluid is a mixture of gas and liquid.

Claim 6 (currently amended): A membrane module according to ~~any one of the preceding claims~~ claim 1 wherein the chamber is enclosed on all sides.

Claim 7 (currently amended): A membrane module according to ~~any one of the preceding claims~~ claim 1 wherein the header or headers are mounted in a clover shaped manifold.

Claim 8 (currently amended): A membrane module according to ~~any one of claims 1 to 6~~ claim 1 wherein the header or headers are mounted in a linear, rectangular, square, or hexagonal manifold.

Claim 9 (currently amended): A membrane module according to ~~any one of the preceding claims~~ claim 1 wherein the chamber ~~has~~ comprises a plurality of sides positioned to form a skirt directly beneath a header or plurality of headers.

Claim 10 (currently amended): An array of membrane modules according to ~~any one of the preceding claims~~ claim 1 when arranged in the form of an extended linear array wherein the chamber has enclosed long sides.

Claim 11 (original): An array of membrane modules according to claim 10 in the form of an extended linear array wherein the chamber has unenclosed short sides.

Claim 12 (currently amended): An assembly of membrane modules ~~including~~ comprising a plurality of porous membranes extending in an array and mounted, at least at one end, in a plurality of respective headers, said headers being configured to provide a number of distribution

apertures therebetween for distributing a fluid into said assembly of membrane modules and along a surface or surfaces of said membranes, a chamber ~~having~~ comprising one open end and another end in fluid communication with said distribution apertures for distributing said fluid to said distribution apertures.

Claim 13 (original): An assembly of membrane modules according to claim 12 wherein the chamber is elongate.

Claim 14 (currently amended): An assembly of membrane modules according to claim 12 ~~or claim 13~~ wherein the length of said chamber is greater than that required to provide a static head, when the membrane is immersed in a liquid and gas introduced into the chamber, equivalent to the head loss for the gas to flow to said distribution apertures.

Claim 15 (currently amended): An assembly of membrane modules according to ~~any one of claims 12 to 14~~ claim 12 wherein the fluid is gas.

Claim 16 (currently amended): An assembly of membrane modules according to ~~any one of claims 12 to 15~~ claim 12 wherein the fluid is a mixture of gas and liquid.

Claim 17 (currently amended): An assembly of membrane modules according to ~~any one of claims 12 to 16~~ claim 12 wherein the chamber is enclosed on all sides.

Claim 18 (currently amended): An assembly of membrane modules according to ~~any one of claims 12 to 17~~ claim 12 wherein the header or headers are mounted in a clover shaped

manifold.

Claim 19 (currently amended): An assembly of membrane modules according to ~~any one of claims 12 to 17~~ claim 12 wherein the header or headers are mounted in a linear, rectangular, square, or hexagonal manifold.

Claim 20 (currently amended): An assembly of membrane modules according to ~~any one of claims 12 to 19~~ claim 12 wherein the chamber ~~has~~ comprises a plurality of sides positioned to form a skirt directly beneath a header or plurality of headers.

Claim 21 (currently amended): An assembly of membrane modules according to ~~any one of claims 12 to 20~~ claim 12 when arranged in the form of an extended linear array wherein the chamber has enclosed long sides.

Claim 22 (currently amended): An assembly of membrane modules according to ~~any one of claims 12 to 21~~ claim 12 in the form of an extended linear array wherein the chamber has unenclosed short sides.

Claim 23 (original): A method of removing a fouling material from a plurality of porous hollow fiber membranes mounted and extending longitudinally in an array to form a membrane module, the method comprising the steps of:

providing a source of gas to a chamber in fluid communication with said membrane module;

flowing the gas from the chamber into a base of the membrane module to form gas bubbles therein when said module is immersed in a liquid, whereby an upward flow of the gas bubbles across surfaces of the hollow fiber membranes is obtained, and whereby fouling materials are dislodged from the surfaces of the porous hollow fiber membranes.

Claim 24 (original): A method according to claim 23 wherein the source of gas to the chamber is provided within the chamber.

Claim 25 (original): A method according to claim 23 wherein the source of gas to the chamber is provided from below the chamber.

Claim 26 (original): A method according to claim 23 wherein said chamber is elongate with one end open and the other end in fluid communication with the membrane module.

Claim 27 (original): A method according to claim 26 wherein the gas is provided through the open end of the chamber.

Claim 28 (original): A method of removing a fouling material from a plurality of porous hollow fiber membranes mounted and extending longitudinally in an array to form a membrane module, the method comprising the steps of:

forming a mixture of gas bubbles and liquid within a mixing chamber;

injecting the mixture into a base of the membrane module, whereby an upward flow of the mixture across surfaces of the hollow fiber membranes is obtained, and whereby fouling materials are dislodged from the surfaces of the porous hollow fiber membranes.

Claim 29 (currently amended): A method according to claim 28 wherein the step of forming a mixture ~~includes~~ comprises entraining the gas bubbles into a liquid stream.

Claim 30 (original): A method according to claim 29 wherein the gas bubbles are entrained into said liquid stream by means of the chamber.

Claim 31 (original): A method according to claim 29 wherein the gas bubbles are entrained or injected into said liquid stream by means of devices which forcibly mix gas into a liquid flow to produce a mixture of liquid and bubbles.

Claim 32 (currently amended): A method according to ~~any one of claims 23 to 31~~ claim 23 wherein air entering the mixing chamber is deflected.

Claim 33 (original): A method according to claim 32 wherein air entering the mixing chamber is deflected by way of a T-piece or baffle.

Claim 34 (currently amended): A method according to claim 32 ~~or 33~~ wherein air entering the mixing chamber is deflected away from liquid entering the mixing chamber by way of a nozzle.

Claim 35 (original): A membrane module comprising a plurality of porous membranes, said membranes being arranged in close proximity to one another, a mixing chamber in fluid

communication with said module for mixing together liquid and gas bubbles to provide a cleaning mixture and means for flowing said cleaning mixture along the surface of said membranes to dislodge fouling materials therefrom.

Claim 36 (original): A method of removing fouling materials from the surface of a plurality of porous hollow fibre membranes mounted and extending longitudinally in an array to form a membrane module, said membranes being arranged in close proximity to one another, the method comprising the steps of forming a mixture of gas bubbles and liquid within a mixing chamber, said mixture being formed by said gas bubbles being entrained in said liquid by flowing said liquid past a source of gas so as to cause said gas to be drawn and/or mixed into said liquid, flowing said mixture into said membrane module such that said bubbles pass substantially uniformly between each membrane in said array to, in combination with said liquid flow, scour the surface of said membranes and remove accumulated solids from within the membrane module.

Claim 37 (original): A method according to claim 36 wherein the membranes comprise porous hollow fibres, the fibres being fixed at each end in a header, the lower header having one or more holes formed therein through which mixture of gas/liquid is introduced from the mixing chamber.

Claim 38 (original): A method according to claim 37 wherein the holes are circular, elliptical or in the form of a slot.

Claim 39 (original): A method according to claim 36 wherein the membranes comprise porous hollow fibres, the fibres being fixed at each end in a plurality of headers, the lower headers being configured to provide a number of distribution apertures therebetween through which mixture of gas/liquid is introduced from the mixing chamber.

Claim 40 (currently amended): A membrane module for use in a membrane bioreactor ~~including~~ comprising a plurality of porous hollow membrane fibres extending longitudinally between and mounted at each end to a respective potting head, said membrane fibres being arranged in close proximity to one another, said fibres being partitioned into a number of bundles at least at or adjacent to their respective potting head so as to form a space therebetween, a mixing chamber connected or open to a source of gas and liquid, one of said potting heads having an array of openings formed therein in fluid communication with said chamber for providing gas bubbles within said module such that, in use, said bubbles move past the surfaces of said membrane fibres to dislodge fouling materials therefrom.

Claim 41 (currently amended): An assembly of membrane modules for use in a membrane bioreactor ~~including~~ comprising a plurality of porous hollow membrane fibres extending longitudinally between and mounted at each end to a plurality of respective potting heads, said membrane fibres being arranged in close proximity to one another, said fibres being partitioned into a number of bundles at least at or adjacent to their respective potting head so as to form a space therebetween, a mixing chamber connected or open to a source of gas and liquid, said potting heads being configured to provide a number of distribution apertures therebetween in fluid communication with said chamber for providing gas bubbles within said assembly of

membrane modules such that, in use, said bubbles move past the surfaces of said membrane fibres to dislodge fouling materials therefrom.

Claim 42 (currently amended): A membrane module or assembly according to ~~claim 40 or~~ claim 41 wherein the liquid used is feed to the membrane module.

Claim 43 (currently amended): A membrane module or assembly according to ~~any one of claims 40 to 42~~ claim 41 wherein the fibres within the module have a packing density of between about 5 to about 70%.

Claim 44 (original): A membrane module or assembly according to claim 43 wherein the packing density is between about 8 to about 55%.

Claim 45 (currently amended): A membrane module or assembly according to ~~any one of claims 40 to 44~~ claim 41 wherein said holes have a diameter in the range of about 1 to 40 mm.

Claim 46 (original): A membrane module or assembly according to claim 45 wherein said holes have a diameter in the range of about 1.5 to about 25 mm.

Claim 47 (currently amended): A membrane module or assembly according to ~~any one of claims 40 to 46 including~~ claim 41 comprising a deflector within said mixing chamber configured to deflect gas away from the source of the liquid.

Claim 48 (currently amended): A membrane module or an assembly according to ~~any one of claims 1 to 9, 12 to 22, 35, or 40 to 47~~ claim 41 including a nozzle whereby liquid is introduced into the mixing chamber.

Claim 49 (currently amended): A membrane bioreactor comprising a tank having means for the introduction of feed thereto, means for forming activated sludge within said tank, a membrane module or an assembly according to ~~any one of claims 1 to 9, 12 to 22, 35, or 40 to 48~~ claim 41 positioned within said tank so as to be immersed in said sludge and said membrane module provided with means for withdrawing filtrate from at least one end of said fibre membranes.

Claim 50 (original): A method of operating a membrane bioreactor of the type according to claim 49, comprising introducing feed to said tank, applying a vacuum to said fibres to withdraw filtrate therefrom while periodically or continuously supplying a cleaning mixture of gas bubbles and liquid formed in a mixing chamber through said openings to within said module such that, in use, said cleaning mixtures flows along the surface of said membrane fibres to dislodge fouling materials therefrom.

Claim 51 (original): A membrane bioreactor according to claim 49 wherein a further source of aeration is provided within the tank to assist microorganism activity.

Claim 52 (original): A membrane bioreactor according to claim 51 wherein the membrane module is suspended vertically within the tank and said further source of aeration is

provided beneath the suspended module.

Claim 53 (original): A membrane bioreactor according to claim 52 wherein the further source of aeration comprises a group of air permeable tube.